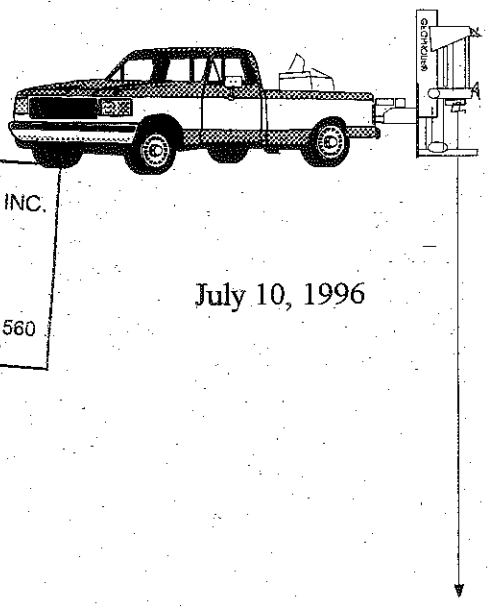
APPENDIX B

FIELD ANALYSIS DATA
GROUND WATER SCREENING SAMPLES

On-site Environmental Services, Inc.
3701 Token Road DeForest, WI 53532
(608) 837-8992 (fax) 837-5906



July 10, 1996

ERM-NorthCentral, Inc.
540 Lake Cook Road
Suite 300
Deerfield, IL 60015

Attention: Gina Seegers

RE: Results of Groundwater Sample Screening
Aubrey Manufacturing, Inc.
Union, Illinois

Based on the field GC analysis of the groundwater samples obtained at the referenced location Monday July 1, 1996, OES is providing the following results expressed in parts per billion. The Pracitical Quantitation Limit for this series is listed in the table.

OES screened samples for Vinyl Chloride, the Dichlors, 1,1,1-Trichloroethane, Trichloroethene and Perchloroethene. For the analysis, 20 ml of the groundwater was placed in a VOA vial. Analysis of the samples was performed by injecting 200 µl of the concentrated headspace into a GC equipped with a Photo Ionization Detector (PID) and an Electron Capture Detector (ECD). The GC was calibrated with the compounds of interest.

The field GC analysis for this project was performed by Dennis Totzke, Environmental Chemist with 20 years experience conducting various types of environmental investigations. If you have any questions or require additional information or clarification please feel free to call at (608) 837-8992.

Sincerely,

Dennis W. Totzke (Kark)

Dennis W. Totzke
Environmental Chemist

[OES\RESULTS\ERM0710.96R]

Groundwater GC Field Screening Results

Aubrey Manufacturing, Inc.
Union, Illinois

July 1, 1996

Consultant - ERM-NorthCentral, Gina Seegers

	Vinyl Chloride	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
Standard Retention Time	1.8	2.17	2.73	3.47	6.23
Response Factor	(1)	(1)	0.03	0.05	0.017
Dilution DI Blank	ND	ND	ND	ND	ND
Practical Quantitation Limit	—	—	1	1	1

Location	*Vinyl Chloride*	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
SB-1W	BPQL	BPQL	62	103	ND
BLANK	ND	ND	ND	ND	ND
SB-2W	BPQL	BPQL	1	40	ND
SB-3W	ND	BPQL	2	107	ND
Surface Outfall from South	ND	ND	ND	ND	ND
Surface from North-Concrete Drain	BPQL	BPQL	BPQL	BPQL	ND
SB-4W	(1)	(1)	53	131	ND
SB-4W (Duplicate)	(1)	(1)	60	150	ND
BLANK	ND	ND	ND	ND	ND
SB-5W	ND	ND	BPQL	ND	ND
SB-6W	BPQL	BPQL	BPQL	59	ND
SB-7W	BPQL	BPQL	1	1	ND

(1) Identified but not quantified

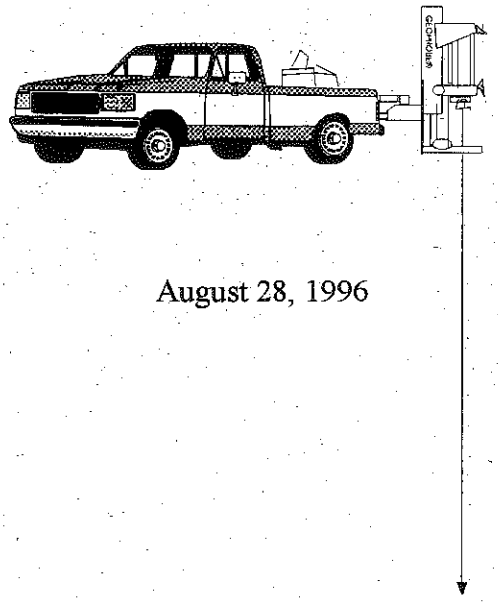
- Results are Expressed in Parts per Billion, unless stated otherwise -

ND ≡ None Detected BPQL ≡ Below Practical Quantitation Limit

[OES\RESULTS\ERM0710.TBL]

On-site Environmental Services, Inc.

3701 Token Road DeForest, WI 53532
(608) 837-8992 (fax) 837-5906



August 28, 1996

ERM-NorthCentral, Inc.
611 E. Wisconsin Avenue
Suite 560
Milwaukee, WI 53202

Attention: Gina Seegers

RE: Results of Groundwater Sample Screening
Aubrey Manufacturing, Inc.
Union, Illinois

Based on the field GC analysis of the groundwater samples obtained at the referenced location Monday August 26 and Tuesday August 27, 1996, OES is providing the following results expressed in parts per billion. The Pracitical Quantitation Limit for this series is listed in the table.

OES screened samples for Vinyl Chloride, the Dichlors, 1,1,1-Trichloroethane, Trichloroethene and Perchloroethene. For the analysis, 20 ml of the groundwater was placed in a VOA vial. Analysis of the samples was performed by injecting 10µl of the concentrated headspace into a GC equipped with a Photo Ionization Detector (PID) and an Electron Capture Detector (ECD). The GC was calibrated with the compounds of interest.

The field GC analysis for this project was performed by Dennis Totzke, Environmental Chemist with 20 years experience conducting various types of environmental investigations. If you have any questions or require additional information or clarification please feel free to call at (608) 837-8992.

Sincerely,

Dennis W. Totzke

Dennis W. Totzke
Environmental Chemist

[OES\RESULTS\ERM0828.96R]

Groundwater GC Field Screening Results

Aubrey Manufacturing, Inc.
Union, Illinois

August 26-27, 1996

Consultant - ERM-NorthCentral, Gina Seegers

	Vinyl Chloride	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
Standard Retention Time			2.662	3.393	6.091
Response Factor (150 µL Injection)			0.027	0.05	0.017
Response Factor (10µL Injection)			0.357	0.952	0.202
DI Blank	ND	ND	ND	ND	ND
Practical Quantitation Limit	—	—	1	1	1

Monday 8/26:

Location	*Vinyl Chloride*	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
SB-8	ND	ND	82	2	ND
SB-9	ND	ND	3	6	ND
SB-10	ND	ND	15	29	ND
SB-11 - Field Blank	ND	ND	ND	ND	ND
SB-11	ND	ND	ND	ND	ND
SB-12	88 (1)	ND	109 (2)	ND	ND
Creek Seepage - West Bank	ND	ND	ND	ND	ND
SB-13	ND	ND	ND	ND	ND

(1) Vinyl Chloride Present - Estimated Concentration

(2) Possibly a Chlorinated other than 1,1,1-TCA (not TCE or other listed target compounds)

- Results are Expressed in Parts per Billion, unless stated otherwise -

ND ≡ None Detected BPQL ≡ Below Practical Quantitation Limit

[OES\RESULTS\ERM0828.TBL]

Groundwater GC Field Screening Results (cont.)

Aubrey Manufacturing, Inc.
Union, Illinois

August 26-27, 1996

	Vinyl Chloride	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
Standard Retention Time	1.586	—	2.693	3.446	6.168
Response Factor	0.07	—	0.212	0.681	0.148
DI Blank	ND	ND	ND	ND	ND
Practical Quantitation Limit	—	—	1	1	1

Tuesday 8/27:

Location	*Vinyl Chloride*	*Dichlors*	*1,1,1-Trichloroethane*	*Trichloroethene*	*Perchloroethene*
SB-14	ND	ND	ND	ND	ND
SB-14 (Duplicate)	ND	ND	ND	ND	ND
SB-15	ND	ND	ND	ND	ND
SB-16	ND	ND	ND	ND	ND
SB-8A	ND	ND	13	ND	ND

- Results are Expressed in Parts per Billion, unless stated otherwise -
ND = None Detected BPQL = Below Practical Quantitation Limit

APPENDIX C

LABORATORY ANALYSIS DATA
GROUND WATER SCREENING SAMPLES

IEA
An Aquarion Company

126 West Center Court
Schaumburg, Illinois 60195

Phone 1·800·933·2580
Fax 847·705·1567

July 17, 1996

ERM-North Central
Gina Seegers
611 E. Wisconsin Ave.
Suite 560
Milwaukee, WI 53202

Dear Gina Seegers:

Please find enclosed the analytical results of the samples received at our laboratory on July 02, 1996. This report contains sections addressing the following information at a minimum:

-Definitions
-Analytical Methodology
-State certifications
-Analytical Results
-Chain-of-custody (if applicable)

IEA Project#: L72961306 Client Project: 91255JK02

Purchase Order#:

IEA Quote#: Site:

Copies of this analytical report and supporting data are maintained in our files for three years; samples are retained for two weeks unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact Cheryl Randle at (800) 933-2580 for any additional information. Thank you for utilizing our services, we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Sincerely

Larry D. Lewis
Director of Operations
IEA-Illinois Laboratory

IEA
An Aquarion Company

Sample Summary

IEA-Illinois

Laboratory ID	Client ID
L72961306-001	SB-1W
L72961306-002	SB-2W
L72961306-003	SB-3W
L72961306-004	SB-4W
L72961306-005	SB-4WD
L72961306-006	SB-5W
L72961306-007	SB-6W
L72961306-008	SB-7W
L72961306-009	TRIP BLANK

IEA
An Aquarion Company

Client Name: ERM North Central
IEA Project #: L72961306
Client Project ID: 91255JK02

PROJECT NARRATIVE

GCMS Volatiles Analysis

The pH of all samples was taken, post analysis, to verify sample preservation. It was determined that all samples had a pH greater than 2. The SW-846 holding time for volatile samples not preserved to a pH less than 2 is 7 days from collection. The samples were analyzed 14 days from collection and therefore exceed SW-846 holding times. Sample matrix and or sampling procedures may have contributed to the pH readings being greater than 2. The trip blank being at a pH less than 2 provides a measure of preservation quality control to verify that the vials were preserved prior to shipment.

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961306
Project ID: 91255JK02
Matrix: Water
Method: 8240B

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor	Method Blank	Client ID	PQL
	1	VN071596	SB-1W	
Chloromethane	U	U	001	5
Bromomethane	U	U		5
Vinyl Chloride	U	U		5
Chloroethane	U	U		5
Methylene Chloride	U	U		5
Acetone	U	U		10
Carbon Disulfide	U	U		5
1,1-Dichloroethene	U	U		5
1,1-Dichloroethane	11	55		5
cis-1,2-Dichloroethene	16	48		5
trans-1,2-Dichloroethene	U	U		5
Chloroform	U	U		5
1,2-Dichloroethane	U	U		5
2-Butanone	U	U		10
1,1, 1-Trichlorethane	26	U		5
Carbon Tetrachloride	U	U		5
Bromodichloromethane	U	U		5
1,2-Dichloropropane	U	U		5
Trans-1,3-dichloropropene	U	U		5
Trichloroethene	56	35		5
Dibromochloromethane	U	U		5
1,1,2-Trichloroethane	U	U		5
Benzene	U	U		5
cis-1,3-Dichloropropene	U	U		5
Bromoform	U	U		5
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5
1,1,2,2-Tetrachloroethane	U	U		5
Toluene	U	9		5
Chlorobenzene	U	U		5
Ethylbenzene	U	U		5
Styrene	U	U		5
Total Xylenes	U	U		15
Date Sampled	7/1/96	7/1/96	7/1/96	
Date Analyzed	7/15/96	7/15/96	7/15/96	

Analyte / Lab ID	SB-2W	SB-3W	SB-4W	B-4WD
	VN071596	VN071596	VN071596	VN071596
	002	003	004	005
Chloromethane	U	U	U	U
Bromomethane	U	U	U	U
Vinyl Chloride	U	U	15	12
Chloroethane	U	U	6	5
Methylene Chloride	U	U	U	U
Acetone	U	U	U	12
Carbon Disulfide	U	U	U	U
1,1-Dichloroethene	U	U	6	U
1,1-Dichloroethane	55	11	58	51
cis-1,2-Dichloroethene	48	20	210	200
trans-1,2-Dichloroethene	U	U	U	U
Chloroform	U	U	U	U
1,2-Dichloroethane	U	U	U	U
2-Butanone	U	U	U	U
1,1, 1-Trichlorethane	U	U	33	19
Carbon Tetrachloride	U	U	U	U
Bromodichloromethane	U	U	U	U
1,2-Dichloropropane	U	U	U	U
Trans-1,3-dichloropropene	U	U	U	U
Trichloroethene	35	69	110	92
Dibromochloromethane	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U
Benzene	U	U	U	U
cis-1,3-Dichloropropene	U	U	U	U
Bromoform	U	U	U	U
4-Methyl-2-Pentanone	U	U	U	U
2-Hexanone	U	U	U	U
Tetrachloroethene	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U
Toluene	9	U	U	U
Chlorobenzene	U	U	U	U
Ethylbenzene	U	U	U	U
Styrene	U	U	U	U
Total Xylenes	U	U	U	U
Date Sampled	7/1/96	7/1/96	7/1/96	7/1/96
Date Analyzed	7/15/96	7/15/96	7/15/96	7/15/96

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961306
Project ID: 91255JK02
Matrix: Water
Method: 8240B

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor	Method Blank	Client ID	PQL
	1	VN071596	SB-5W	
Chloromethane	U	U	006	5
Bromomethane	U	U		5
Vinyl Chloride	U	U		5
Chloroethane	U	U		5
Methylene Chloride	U	U		5
Acetone	U	13		10
Carbon Disulfide	U	U		5
1,1-Dichloroethene	U	U		5
1,1-Dichloroethane	U	U		5
cis-1,2-Dichloroethene	U	27		5
trans-1,2-Dichloroethene	U	U		5
Chloroform	U	U		5
1,2-Dichloroethane	U	U		5
2-Butanone	U	U		10
1,1, 1-Trichlorethane	U	U		5
Carbon Tetrachloride	U	U		5
Bromodichloromethane	U	U		5
1,2-Dichloropropane	U	U		5
Trans-1,3-dichloropropene	U	U		5
Trichloroethene	U	87		5
Dibromochloromethane	U	U		5
1,1,2-Trichloroethane	U	U		5
Benzene	U	U		5
cis-1,3-Dichloropropene	U	U		5
Bromoform	U	U		5
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5
1,1,2,2-Tetrachloroethane	U	U		5
Toluene	U	U		5
Chlorobenzene	U	U		5
Ethylbenzene	U	U		5
Styrene	U	U		5
Total Xylenes	U	U		15
Date Sampled	7/1/96	7/1/96		
Date Analyzed	7/15/96	7/15/96		

Analyte / Lab ID	Dilution Factor	Method Blank	Client ID	PQL
	1	VN071596	SB-6W	
Chloromethane	U	U	007	5
Bromomethane	U	U		5
Vinyl Chloride	U	U		5
Chloroethane	U	U		5
Methylene Chloride	U	U		5
Acetone	13	U		10
Carbon Disulfide	U	U		5
1,1-Dichloroethene	U	U		5
1,1-Dichloroethane	U	U		5
cis-1,2-Dichloroethene	27	U		5
trans-1,2-Dichloroethene	U	U		5
Chloroform	U	U		5
1,2-Dichloroethane	U	U		5
2-Butanone	U	U		10
1,1, 1-Trichlorethane	U	U		5
Carbon Tetrachloride	U	U		5
Bromodichloromethane	U	U		5
1,2-Dichloropropane	U	U		5
Trans-1,3-dichloropropene	U	U		5
Trichloroethene	87	U		5
Dibromochloromethane	U	U		5
1,1,2-Trichloroethane	U	U		5
Benzene	U	U		5
cis-1,3-Dichloropropene	U	U		5
Bromoform	U	U		5
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5
1,1,2,2-Tetrachloroethane	U	U		5
Toluene	U	U		5
Chlorobenzene	U	U		5
Ethylbenzene	U	U		5
Styrene	U	U		5
Total Xylenes	U	U		15
Date Sampled	7/1/96	7/1/96		
Date Analyzed	7/15/96	7/15/96		

Analyte / Lab ID	Dilution Factor	Method Blank	Client ID	PQL
	1	VN071596	SB-7W	
Chloromethane	U	U	008	5
Bromomethane	U	U		5
Vinyl Chloride	U	U		5
Chloroethane	U	U		5
Methylene Chloride	U	U		5
Acetone	U	U		10
Carbon Disulfide	U	U		5
1,1-Dichloroethene	U	U		5
1,1-Dichloroethane	U	U		5
cis-1,2-Dichloroethene	U	U		5
trans-1,2-Dichloroethene	U	U		5
Chloroform	U	U		5
1,2-Dichloroethane	U	U		5
2-Butanone	U	U		10
1,1, 1-Trichlorethane	U	U		5
Carbon Tetrachloride	U	U		5
Bromodichloromethane	U	U		5
1,2-Dichloropropane	U	U		5
Trans-1,3-dichloropropene	U	U		5
Trichloroethene	U	U		5
Dibromochloromethane	U	U		5
1,1,2-Trichloroethane	U	U		5
Benzene	U	U		5
cis-1,3-Dichloropropene	U	U		5
Bromoform	U	U		5
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5
1,1,2,2-Tetrachloroethane	U	U		5
Toluene	U	U		5
Chlorobenzene	U	U		5
Ethylbenzene	U	U		5
Styrene	U	U		5
Total Xylenes	U	U		15
Date Sampled	7/1/96	7/1/96		
Date Analyzed	7/15/96	7/15/96		

Analyte / Lab ID	Dilution Factor	Trip Blank	PQL
	1	VN071596	
Chloromethane	U	009	5
Bromomethane	U		5
Vinyl Chloride	U		5
Chloroethane	U		5
Methylene Chloride	U		5
Acetone	U		10
Carbon Disulfide	U		5
1,1-Dichloroethene	U		5
1,1-Dichloroethane	U		5
cis-1,2-Dichloroethene	U		5
trans-1,2-Dichloroethene	U		5
Chloroform	U		5
1,2-Dichloroethane	U		5
2-Butanone	U		10
1,1, 1-Trichlorethane	U		5
Carbon Tetrachloride	U		5
Bromodichloromethane	U		5
1,2-Dichloropropane	U		5
Trans-1,3-dichloropropene	U		5
Trichloroethene	U		5
Dibromochloromethane	U		5
1,1,2-Trichloroethane	U		5
Benzene	U		5
cis-1,3-Dichloropropene	U		5
Bromoform	U		5
4-Methyl-2-Pentanone	U		10
2-Hexanone	U		10
Tetrachloroethene	U		5
1,1,2,2-Tetrachloroethane	U		5
Toluene	U		5
Chlorobenzene	U		5
Ethylbenzene	U		5
Styrene	U		5
Total Xylenes	U		15
Date Sampled	7/1/96		
Date Analyzed	7/15/96		

Analyte / Lab ID	Dilution Factor	Method Blank	PQL
	1	VN071596	
Chloromethane	U	VN071596	5
Bromomethane	U		5
Vinyl Chloride	U		5
Chloroethane	U		5
Methylene Chloride	U		5
Acetone	U		10
Carbon Disulfide	U		5
1,1-Dichloroethene	U		5
1,1-Dichloroethane	U		5
cis-1,2-Dichloroethene	U		5
trans-1,2-Dichloroethene	U		5
Chloroform	U		5
1,2-Dichloroethane	U		5
2-Butanone	U		10
1,1, 1-Trichlorethane	U		5
Carbon Tetrachloride	U		5
Bromodichloromethane	U		5
1,2-Dichloropropane	U		5
Trans-1,3-dichloropropene	U		5
Trichloroethene	U		5
Dibromochloromethane	U		5
1,1,2-Trichloroethane	U		5
Benzene	U		5
cis-1,3-Dichloropropene	U		5
Bromoform	U		5
4-Methyl-2-Pentanone	U		10
2-Hexanone	U		10
Tetrachloroethene	U		5
1,1,2,2-Tetrachloroethane	U		5
Toluene	U		5
Chlorobenzene	U		5
Ethylbenzene	U		5
Styrene	U		5
Total Xylenes	U		15
Date Sampled	7/1/96		
Date Analyzed	7/15/96		

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

IEA
An Aquarion Company

FORM II
VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name : IEA, Inc.
Client Name : ERM-North Central
Matrix : (soil/water) Water
Method No. : 8240B

	Sample No.	S1 (DCE) #	S2 (TOL) #	S3 (BFB) #	Other #	TOT OUT
01	VN071596	104%	103%	95%		
02	SB-1W	106%	101%	99%		
03	SB-1W ms	114%	99%	101%		
04	SB-1W md	108%	104%	101%		
05	SB-2W	105%	105%	93%		
06	SB-3W	104%	100%	98%		
07	SB-4W	102%	100%	88%		
08	SB-4WD	103%	99%	103%		
09	SB-5W	103%	103%	101%		
10	SB-6W	104%	98%	103%		
11	SB-7W	107%	101%	97%		
12	Trip Blank	112%	109%	101%		
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC Limits
S1 (DCE) =	1,2-Dichloroethane-d4	76-114%
S2 (TOL) =	Toluene-d8	88-110%
S3 (BFB) =	Bromofluorobenzene	86-115%
Other=	Not Used	---

#--Column used to flag recovery values
*--Value outside QC Limits
D--Surrogates diluted out

Spike Recovery and RPD Summary Report - WATER

Method : K:\CHEMSTN\MSN\METHODS\TCLH2O.M
Title : Method 8240B/8260A in Water; Calib on 7/10/96
Last Update : Wed Jul 10 13:35:24 1996
Response via : Initial Calibration

Non-Spiked Sample: MSN0301.D

	Spike Sample	Spike Duplicate Sample
File ID :	MSN0302.D	MSN0303.D
Sample :	961306-001ms	961306-001md
Acq Time:	15 Jul 96 13:52	15 Jul 96 14:29

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-dichloroethene	1.7	50	51	51	99	98	1	14	61-145
benzene	0.0	50	52	49	103	98	5	11	76-127
trichloroethene	55.9	50	108	105	104	97	6	14	71-120
toluene	0.8	50	56	54	110	106	3	13	76-125
chlorobenzene	0.0	50	48	51	96	102	5	13	75-130

- Fails Limit Check

TCLH2O.M Tue Jul 16 08:29:28 1996

IEA
An Aquarion Company
126 WEST CENTER COURT
SCHAUMBURG, ILLINOIS 60195
PH # 708-705-0740
FAX # 708-705-1567

CHAIN OF COUSTODY RECORD

NO. 7317

REGULATORY CLASSIFICATION - PLEASE SPECIFY

☐ NPDES ☐ DRINKING WATER ☐ RCRA ☐ OTHER ______

COMPANY	CONTACT PERSON	PROJECT I.D.	PHONE #	FAX #	P.O. #
ERM-North Central	Gina Siegers	9125SJK02	414-289-9505	289-9552	

ADDRESS		
611 E. Wisconsin Avenue Suite 560		
CITY	**STATE**	**ZIP**
Milwaukee	WI	53211

REQUESTED PARAMETERS

DATE	TIME	SAMPLE I.D.	MATRIX	# OF CONTAINERS	PRESERVED Y/N	VOC (8260)								COMMENTS
7/1/96	1035	SB-1W	W	3	Y	✓								
↓	1120	SB-2W	W	3	Y	✓								
	1200	SB-3W	W	3	Y	✓								
	1240	SB-4W	W	3	Y	✓								
	1240	SB-4WD	W	3	Y	✓								
	1320	SB-5W	W	3	Y	✓								
	1440	SB-6W	W	3	Y	✓								
↓	1530	SB-7W	W	3	Y	✓								

DELIVERABLES

☐ Routine
☐ Rush (Specify)
☐ Special Request (attach specifics)

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY	DATE / TIME
James E. Keme	7/2/96 12:30	Ronald J. Lawson	7/2/96 1230
RELINQUISHED BY (SIGNATURE)	**DATE / TIME**	**RECEIVED FOR LAB BY**	**DATE / TIME**
Ronald J. Lawson	7/2/96 240	[signature]	7-2-96 1600

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

IEA QUOTE NO.

IEA USE ONLY

IEA
An Aquarion Company

126 West Center Court
Schaumburg, Illinois 60195

Phone 1-800-933-2580
Fax 847-705-1567

September 26, 1996

ERM-North Central
John Roberts
611 East Wisconsin Avenue
Suite 560
Milwaukee, WI 53202

Dear John Roberts:

Please find enclosed the analytical results of the samples received at our laboratory on August 29, 1996. This report contains sections addressing the following information at a minimum:

- -Definitions
- -Analytical Methodology
- -State certifications
- -Analytical Results
- -Chain-of-custody (if applicable)

IEA Project#: L72961884 Client Project: 91255JK02

Purchase Order#:

IEA Quote#: Site:

Copies of this analytical report and supporting data are maintained in our files for three years; samples are retained for two weeks unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact Cheryl Randle at (800) 933-2580 for any additional information. Thank you for utilizing our services, we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Sincerely

Larry D. Lewis
Director of Operations
IEA-Illinois Laboratory

IEA
An Aquarion Company

Definitions of Data Qualifiers

Organic Analysis

B - This analyte was detected in the method blank associated with this sample. The concentration reported in the method blank is suspected to contribute to the reported concentration of the analyte in the sample.

E - The concentration reported for this compound exceeds the calibration range of the instrument.

H - This sample had one or more surrogate recoveries above the acceptance criteria due to coelution with a nontarget compound.

J - The reported concentration for this compound is an estimated value. When associated with tentatively identified compounds (TICs), the result is quantitated based on a response factor of 1. When the flag is associated with a calibrated target compound, the compound has been positively identified and the reported concentration is above the method detection limit (MDL), but below the practical quantitation limit (PQL).

L - This sample had one or more surrogate recoveries below the acceptance criteria due to matrix effects. This effect was confirmed through a second analysis of the sample.

LI - The recovery of the internal standard corresponding to this compound did not meet the acceptance criteria due to matrix effects. This effect was confirmed through a second analysis of the sample.

T1 - The chromatographic profile of this sample does not match that of a gasoline standard. Another unidentifiable petroleum product is present in this sample. Quantitation is based on a gasoline standard calibration.

T2 - The chromatographic profile of this sample does not match that of a diesel fuel standard. Another petroleum product is present in this sample. Quantitation is based on a diesel fuel standard calibration.

U - This compound was not detected in the sample above the PQL.

UD - This compound was not detected above the elevated PQL in this diluted analysis.

Inorganic Analysis

E - The reported value was estimated due to the presence of interference.

M - Duplicate injection precision was not met.

N - Spiked sample recovery was not within control limits.

S - The reported value was determined by the Method of Standard Additions(MSA).

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis was not within control limits.

+ - Correlation Coefficient for the MSA is less than 0.995.

IEA
An Aquarion Company

Sample Summary

IEA-Illinois

Laboratory ID	Client ID
L72961884-001	SB8
L72961884-002	SB9
L72961884-003	SB10
L72961884-004	SB10D
L72961884-005	SB11B
L72961884-006	SB11
L72961884-007	SB12
L72961884-008	SB13
L72961884-009	SB14
L72961884-010	SB13DP
L72961884-011	SB15
L72961884-012	SB16
L72961884-013	SB8A
L72961884-014	SB8AD
L72961884-015	TRIP BLANK

IEA
An Aquarion Company

Client Name: ERM-North Central
IEA Project #: L72961884
Client Project ID: 91255JK02

PROJECT NARRATIVE

GCMS Volatiles Analysis

Samples SB8, SB10, and SB8A were analyzed past the holdtime.

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961884
Project ID: 91255JK02
Matrix: Water
Method: 8260A

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor	Method Blank	Client ID	PQL
	1	VN091696	SB8	
Chloromethane	U	U	001	5
Bromomethane	U	U		5
Vinyl Chloride	U	U		5
Chloroethane	U	U		5
Methylene Chloride	U	U		5
Acetone	U	U		10
Carbon Disulfide	U	U		5
1,1-Dichloroethene	9	U		5
1,1-Dichloroethane	46	10		5
cis-1,2-Dichloroethene	12	U		5
trans-1,2-Dichloroethene	U	U		5
Chloroform	U	U		5
1,2-Dichloroethane	U	U		5
2-Butanone	U	U		10
1,1, 1-Trichlorethane	70	U		5
Carbon Tetrachloride	U	U		5
Bromodichloromethane	U	U		5
1,2-Dichloropropane	U	U		5
Trans-1,3-dichloropropene	U	U		5
Trichloroethene	U	U		5
Dibromochloromethane	U	U		5
1,1,2-Trichloroethane	U	U		5
Benzene	U	U		5
cis-1,3-Dichloropropene	U	U		5
Bromoform	U	U		5
4-Methyl-2-Pentanone	U	U		10
2-Hexanone	U	U		10
Tetrachloroethene	U	U		5
1,1,2,2-Tetrachloroethane	U	U		5
Toluene	U	U		5
Chlorobenzene	U	U		5
Ethylbenzene	U	U		5
Styrene	U	U		5
Total Xylenes	U	U		10
Date Sampled	8/26/96	8/26/96		
Date Analyzed	9/16/96	8/31/96		

Dilution Factor	Method Blank	Client ID	PQL
1	VN083196	SB9	
U	U	002	5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
10	U		5
12	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
8/26/96	8/26/96		
8/31/96	9/16/96		

Dilution Factor	Method Blank	Client ID	PQL
1	VN091696	SB10	
U	U	003	5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
14	U		5
U	U		5
14	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
15	U		5
U	U		5
U	U		5
U	U		5
U	U		5
22	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
8/26/96	8/26/96		
9/16/96	8/31/96		

Dilution Factor	Method Blank	Client ID	PQL
1	VN083196	SB11B	
U	U	005	5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
8/26/96	8/26/96		
8/31/96	8/31/96		

Dilution Factor	Method Blank	Client ID	PQL
1	VN083196	SB11	
U	U	006	5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
U	U		10
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		5
U	U		10
8/26/96	8/26/96		
8/31/96	8/31/96		

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961884
Project ID: 91255JK02
Matrix: Water
Method: 8260A

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor	1	1	1	1	1	PQL
	Method Blank	VN090396	VN091096	VN091096	VN090396	VN090396	
	Client ID	SB12	SB12	SB12	SB13	SB14	
	Lab ID	007	007RE	007RE-RE	008	009	
Chloromethane		U	U	U	U	U	5
Bromomethane		U	U	U	U	U	5
Vinyl Chloride		U	U	U	U	U	5
Chloroethane		U	U	U	U	U	5
Methylene Chloride		U	U	U	U	U	5
Acetone		9 J	11	12	U	U	10
Carbon Disulfide		U	U	U	U	U	5
1,1-Dichloroethene		U	U	U	U	U	5
1,1-Dichloroethane		U	U	U	U	U	5
cis-1,2-Dichloroethene		U	U	U	U	U	5
trans-1,2-Dichloroethene		U	U	U	U	U	5
Chloroform		U	U	U	U	U	5
1,2-Dichloroethane		U	U	U	U	U	5
2-Butanone		U	U	U	U	U	10
1,1, 1-Trichlorethane		U	U	U	U	U	5
Carbon Tetrachloride		U	U	U	U	U	5
Bromodichloromethane		U	U	U	U	U	5
1,2-Dichloropropane		U	U	U	U	U	5
Trans-1,3-dichloropropene		U	U	U	U	U	5
Trichloroethene		U	U	U	U	U	5
Dibromochloromethane		U	U	U	U	U	5
1,1,2-Trichloroethane		U	U	U	U	U	5
Benzene		U	U	U	U	U	5
cis-1,3-Dichloropropene		U	U	U	U	U	5
Bromoform		U	U	U	U	U	5
4-Methyl-2-Pentanone		U	U	U	U	U	10
2-Hexanone		U	U	U	U	U	10
Tetrachloroethene		U	U	U	U	U	5
1,1,2,2-Tetrachloroethane		U	U	U	U	U	5
Toluene		U	U	U	U	U	5
Chlorobenzene		U	U	U	U	U	5
Ethylbenzene		U	U	U	U	U	5
Styrene		U	U	U	U	U	5
Total Xylenes		U	U	U	U	U	10
	Date Sampled	8/26/96	8/26/96	8/27/96	8/26/96	8/27/96	
	Date Analyzed	9/3/96	9/10/96	9/10/96	9/3/96	9/3/96	

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961884
Project ID: 91255JK02
Matrix: Water
Method: 8260A

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor	1	1	1	1	1	PQL
	Method Blank	VN090396	VN090396	VN090396	VN091696	VN090396	
	Client ID	SB13DP	SB15	SB16	SB8A	Trip Blank	
	Lab ID	010	011	012	013	015	
Chloromethane		U	U	U	U	U	5
Bromomethane		U	U	U	U	U	5
Vinyl Chloride		U	U	U	U	U	5
Chloroethane		U	U	U	U	U	5
Methylene Chloride		U	U	U	U	U	5
Acetone		U	U	U	U	U	10
Carbon Disulfide		U	U	U	U	U	5
1,1-Dichloroethene		U	U	U	U	U	5
1,1-Dichloroethane		U	U	U	45	U	5
cis-1,2-Dichloroethene		U	U	U	51	U	5
trans-1,2-Dichloroethene		U	U	U	U	U	5
Chloroform		U	U	U	U	U	5
1,2-Dichloroethane		U	U	U	U	U	5
2-Butanone		U	U	U	U	U	10
1,1, 1-Trichlorethane		U	U	U	13	U	5
Carbon Tetrachloride		U	U	U	U	U	5
Bromodichloromethane		U	U	U	U	U	5
1,2-Dichloropropane		U	U	U	U	U	5
Trans-1,3-dichloropropene		U	U	U	U	U	5
Trichloroethene		U	U	U	8	U	5
Dibromochloromethane		U	U	U	U	U	5
1,1,2-Trichloroethane		U	U	U	U	U	5
Benzene		U	U	U	U	U	5
cis-1,3-Dichloropropene		U	U	U	U	U	5
Bromoform		U	U	U	U	U	5
4-Methyl-2-Pentanone		U	U	U	U	U	10
2-Hexanone		U	U	U	U	U	10
Tetrachloroethene		U	U	U	U	U	5
1,1,2,2-Tetrachloroethane		U	U	U	U	U	5
Toluene		U	U	U	U	U	5
Chlorobenzene		U	U	U	U	U	5
Ethylbenzene		U	U	U	U	U	5
Styrene		U	U	U	U	U	5
Total Xylenes		U	U	U	U	U	10
	Date Sampled	8/27/96	8/27/96	8/27/96	8/27/96	8/27/96	
	Date Analyzed	9/3/96	9/3/96	9/3/96	9/16/96	9/3/96	

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor

IEA
An Aquarion Company

Client: ERM-North Central
IEA Job#: L72961884
Project ID: 91255JK02
Matrix: Water
Method: 8260A

EPA Target Compound List (TCL)
GCMS Volatiles Analysis
µg/L

Analyte / Lab ID	Dilution Factor: 1	1	1	1		PQL
	Method Blank: VN083196	VN090396	VN091096	VN091696		
	Client ID: Method Blank	Method Blank	Method Blank	Method Blank		
	Lab ID: VN083196	VN090396	VN091096	VN091696		
Chloromethane	U	U	U	U		5
Bromomethane	U	U	U	U		5
Vinyl Chloride	U	U	U	U		5
Chloroethane	U	U	U	U		5
Methylene Chloride	U	U	U	U		5
Acetone	U	U	U	U		10
Carbon Disulfide	U	U	U	U		5
1,1-Dichloroethene	U	U	U	U		5
1,1-Dichloroethane	U	U	U	U		5
cis-1,2-Dichloroethene	U	U	U	U		5
trans-1,2-Dichloroethene	U	U	U	U		5
Chloroform	U	U	U	U		5
1,2-Dichloroethane	U	U	U	U		5
2-Butanone	U	U	U	U		10
1,1, 1-Trichlorethane	U	U	U	U		5
Carbon Tetrachloride	U	U	U	U		5
Bromodichloromethane	U	U	U	U		5
1,2-Dichloropropane	U	U	U	U		5
Trans-1,3-dichloropropene	U	U	U	U		5
Trichloroethene	U	U	U	U		5
Dibromochloromethane	U	U	U	U		5
1,1,2-Trichloroethane	U	U	U	U		5
Benzene	U	U	U	U		5
cis-1,3-Dichloropropene	U	U	U	U		5
Bromoform	U	U	U	U		5
4-Methyl-2-Pentanone	U	U	U	U		10
2-Hexanone	U	U	U	U		10
Tetrachloroethene	U	U	U	U		5
1,1,2,2-Tetrachloroethane	U	U	U	U		5
Toluene	U	U	U	U		5
Chlorobenzene	U	U	U	U		5
Ethylbenzene	U	U	U	U		5
Styrene	U	U	U	U		5
Total Xylenes	U	U	U	U		10
Date Sampled	---	---	---	---		
Date Analyzed	8/31/96	9/3/96	9/10/96	9/16/96		

PQL = Practical Quantitation Limit
To obtain the sample-specific quantitation limit, multiply the PQL by the Dilution Factor

IEA
An Aquarion Company

FORM II
VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name : IEA, Inc.
Client Name : ERM North Central
Matrix : (soil/water) Water
Method No. : 8260A

	Sample No.	S1 (DCE) #	S2 (TOL) #	S3 (BFB) #	Other #	TOT OUT
01	VN083196	101%	97%	94%		
02	VN090396	96%	95%	95%		
03	VN091696	98%	94%	92%		
04	SB8	100%	94%	101%		
05	SB9	100%	96%	96%		
06	SB10	97%	91%	97%		
07	SB11B	103%	97%	100%		
08	SB11	99%	93%	99%		
09	SB12	102%	96%	106%		
10	SB12 RE	96%	94%	98%		
11	SB12 RE-RE	95%	93%	97%		
12	SB13	95%	95%	95%		
13	SB14	95%	94%	97%		
14	SB13DP	95%	93%	92%		
15	SB15	104%	96%	101%		
16	SB16	95%	93%	99%		
17	SB8A	96%	95%	90%		
18	Trip Blank	102%	98%	93%		
19	961847-003ms	105%	97%	93%		
20	961847-003md	96%	95%	96%		
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC Limits
S1 (DCE) =	1,2-Dichloroethane-d4	76-114%
S2 (TOL) =	Toluene-d8	88-110%
S3 (BFB) =	Bromofluorobenzene	86-115%
Other=	Not Used	---

#--Column used to flag recovery values
*--Value outside QC Limits
D--Surrogates diluted out

Spike Recovery and RPD Summary Report - WATER

Method : K:\CHEMSTN\MSN\METHODS\TCLH2O.M
Title : Method 8240B/8260A in Water ; Calib on 8/14/96
Last Update : Wed Aug 14 13:07:16 1996
Response via : Initial Calibration

Non-Spiked Sample: MSN0898.D

	Spike Sample	Spike Duplicate Sample
File ID :	MSN0899.D	MSN0900.D
Sample :	96961847-003ms	96961847-003md
Acq Time:	31 Aug 96 17:41	31 Aug 96 18:21

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-dichloroethene	1.2	50	49	50	96	98	2	14	61-145
benzene	1.3	50	49	49	96	95	1	11	76-127
trichloroethene	0.5	50	52	52	104	103	1	14	71-120
toluene	1.2	50	48	48	93	93	0	13	76-125
chlorobenzene	1.0	50	49	48	95	94	2	13	75-130

- Fails Limit Check

TCLH2O.M Tue Sep 03 10:33:03 1996

Type

ERM-North Central, inc.

Type

Property Owner: Au ey Mani.
Site Address: 67_ S. Main
Union, IL

Phone Number: 815-423 401
Phone Number: 414-28 1505

Sample Chain of Custody

W.O.No.: 912SSJ+KOZ
Project Name: Aubrey
Sampler: Gina Seegers

ERM Sample Number	Date	Time	COMP	GRAB	TYPE	DEVICE	Station Location	Number of Containers	VOCs						Lab I.D.	Cracked/ Broken	Improperly Sealed	Good	Comments
SB8	8/26/96	0949		X	W		SB8	3	✓										
SB9	↓	1105		X	W		SB9	3	✓										
SB10		1230		X	W		SB10	3	✓										
SB10D		1230		X	W		SB10	3	✓										
SB11B		1410		X	W		SB11	3	✓										
SB11		1425		X	W		SB11	2	✓										
SB12		1520		X	W		SB12	3	✓										
SB13	↓	1745		X	W		SB13	3	✓										

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
Gina M. Seegers	8/28/96	1330	Vince Vaughn	8-29-96	1000	

Remarks

Please hold samples SB8, SB10 & SB10D for further instruction
Samples cooled to 4°C

COPIES: White & Yellow copies accompany sample shipment to laboratory. Yellow copy retained by laboratory. White copy to be returned to ERM for files. Pink copy retained by sampler. Gold copy extra copy as needed

ERM-North Central, inc.

Property Owner: Aubrey
Site Address: Union, IL
Phone Number:
Phone Number:

Sample Chain of Custody

W.O.No.: 9125SJK02 Project Name: Aubrey
Sampler: Gina Seegers

ERM Sample Number	Date	Time	COMP	GRAB	TYPE	DEVICE	Station Location	Number of Containers	VOCs (8260)						Lab I.D.	Sample Condition: Cracked/Broken	Improperly Sealed	Good	Comments
SB14	8/27/96	1125		X	W		SB14	3	✓										
SB13DP		1300		X	W		SB13Dup	3	✓										
SB15		1425		X	W		SB15	3	✓										
SB16		1530		X	W		SB16	3	✓										
SB8A		1615		X	W		SB8A	3	✓										
SB8AD		1615		X	W		SB8A	2	✓										
							Trip Blank	2	✓										
							Temp Blank	2											RECEIVED AT 4°C

Sample Relinquished by:	Date	Time	Sample Received by:	Date	Time	Reason for Transfer
Gina M Seegers	8/28/96	1330	Vince Vaughn	8-29-96	1000	

Remarks

Please hold SB8A & SB8AD for further instruction
Samples cooled to 4°C

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